

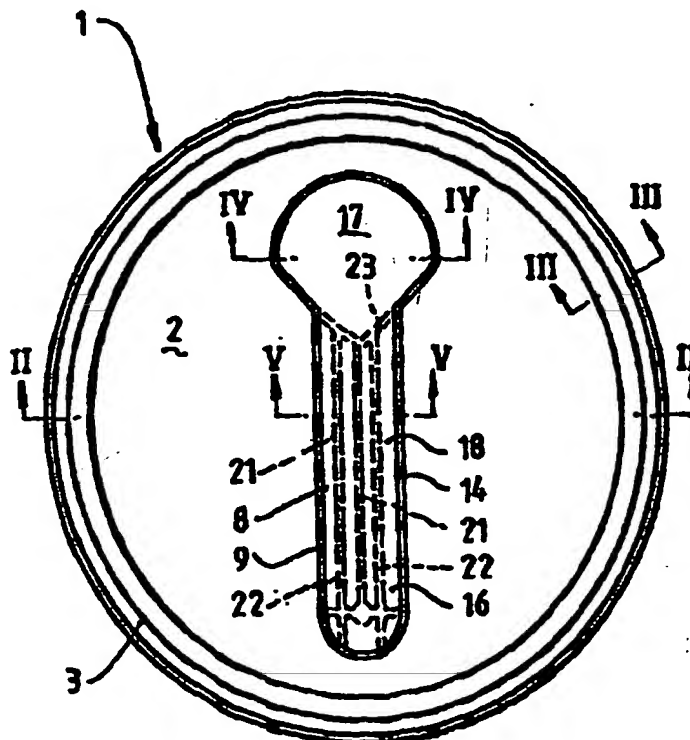


INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

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(21) International Application Number: PCT/AU94/00543 (22) International Filing Date: 13 September 1994 (13.09.94) (30) Priority Data: PM 1175 13 September 1993 (13.09.93) AU PM 1850 18 October 1993 (18.10.93) AU PM 4221 3 March 1994 (03.03.94) AU (71) Applicant (for all designated States except US): GOLDTHORN INVESTMENTS PTY. LTD. [AU/AU]; Level 2, 492 St Kilda Road, Melbourne, VIC 3004 (AU). (72) Inventors; and (75) Inventors/Applicants (for US only): SCHOENMAKERS, Gary, Leon [AU/AU]; 170 Forest Road, Boronia, VIC 3155 (AU). LEE, Andy [AU/AU]; 3-7 Haming Street, Dandenong, VIC 3175 (AU). VAUPOTIC, Vladimir [AU/AU]; 1 Futura Road, Keysborough, VIC 3173 (AU). (74) Agent: CARTER SMITH & BEADLE; Qantas House, 2 Railway Parade, Camberwell, VIC 3124 (AU).		(81) Designated States: AM, AT, AU, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, EE, ES, FI, GB, GE, HU, JP, KE, KG, KP, KR, KZ, LK, LR, LT, LU, LV, MD, MG, MN, MW, NL, NO, NZ, PL, PT, RO, RU, SD, SE, SI, SK, TJ, TT, UA, US, UZ, VN, European patent (AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG), ARIPO patent (KE, MW, SD). Published <i>With international search report.</i>

(54) Title: LIDS, AND CONTAINERS WITH LIDS**(57) Abstract**

A lid (1; 31; 51) for a container (40) is provided with a built-in implement (8) for use with the contents of the container. In one form of the invention, the implement (8) is integrally moulded with a cover portion (2) of the lid (1) and can be separated from the cover portion (2) by breaking a frangible web (9) which connects the implement (8) to the cover portion (2). In another form, the implement (8) is connected to the cover portion (2) of the lid (31) by frangible tabs (33, 34 and 35) and a series of perforations (32) extend between the tabs (33, 34 and 35) to define the implement (8). In a further form of lid (51), the implement (8) is moulded separately from the cover portion (2) and connected thereto by one or more sealing sheets (56, 57). A method of moulding the cover portion (2) and separately formed implement (8) in a single die is also provided.



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LIDS, AND CONTAINERS WITH LIDS

FIELD OF THE INVENTION

This invention relates to lids, and to containers with lids.

BACKGROUND OF THE INVENTION

5 It is known to provide many foods, for instance cream, snack foods, convenience foods, takeaway foods, ice-cream, yoghurt, preserved fruit, salads, Asian meals, in containers having a bowl or tub portion having an upper peripheral rim and a lid which has a cover portion and an outer peripheral rim for engaging with said upper peripheral rim to close the container.

10 In some instances a sealing sheet which is breakable may extend across said upper peripheral rim and in this instance the lid is usually provided for the purpose of reclosing the container after the sealing sheet has been broken.

In many instances it is the desire of a consumer to eat the food within the container by using an implement such as an eating utensil such as a spoon, fork,
15 knife or chopsticks.

It may also be a desire of a consumer to eat such food in a place, say away from home, where such an implement is not readily available and this may be inconvenient.

This invention is not confined to foods as the invention may have additional
20 applications.

SUMMARY OF THE INVENTION

According to one aspect of the invention there is provided a lid for a container, comprising a cover portion adapted to extend over a container, wherein the lid includes an implement for use with the contents of the container, said
25 implement being connected to the cover portion in such a manner as to be separable from the cover portion.

Preferably, the implement is received in a complementary shaped recess or aperture in the cover portion and is connected to the sides of the recess or aperture by releasable or frangible means.

30 In accordance with one particular aspect of the invention, the implement is

formed integrally with the cover portion and is at least partly defined by a frangible web or line of weakness in the cover portion which may be broken to separate the implement from the cover portion.

Preferably, the web or line of weakness extends completely around the
5 implement in the cover portion.

The web or line of weakness may be defined at least partly by at least one groove in the cover portion. The at least one groove may be provided in the upper surface or in the lower surface of the cover portion, or grooves defining the frangible web or line of weakness may be provided in both the upper and lower
10 surfaces of the cover portion.

Alternatively, or additionally, a frangible line of weakness may be at least partly defined by frangible tabs and a series of perforations or slots in the cover portion extending between the tabs. The perforations or slots may extend only partially through the lid, or they may extend completely through the lid. Where the
15 perforations or slots extend completely through the lid, a removable sealing sheet may be provided which extends over at least the perforations or slots in the cover portion.

The lid may be conveniently formed from a synthetic plastics material and preferably the cover portion has the implement moulded therein.

20 In accordance with another aspect of the invention, the implement is formed separately from the cover portion and is attached to the cover portion by releasable or frangible attachment means.

When a separately formed implement is received in an aperture in the cover portion it is preferably connected to the sides of the aperture by a releasable sealing
25 sheet which seals a gap around the implement between its peripheral edge and the sides of the aperture. The separately formed implement may be conveniently received in a complementary shaped aperture in the lid. Preferably, the gap provides a clearance between the peripheral edge of the implement and the sides of the aperture of from 0.1mm to 1.0mm.

30 A sealing sheet may be applied to the upper surface or the lower surface of the lid, or sealing sheets may be applied to both upper and lower surfaces of the lid.

The lid and separate implement may be formed by separate processes and from the same material or different materials. It is, however, desirable for them to be formed by a single moulding process. Thus, in accordance with a further aspect of the invention there is provided a method of forming a lid according to the
5 previously described aspect of the invention wherein the cover portion and the implement are moulded from synthetic plastics material in separate cavities or sub-cavities in a single die.

The or each sealing sheet may be applied during moulding of the lid. If only one sheet is moulded, another sheet may be releasably secured to the implement
10 and the cover portion by heat bonding or by an adhesive.

When two sealing sheets are used they may have different removability one as to the other.

To access the implement from the cover portion, the or each sealing sheet may be broken or peeled back.

15 If it is desired to re-seal the aperture once the implement has been removed, at least one sealing sheet will preferably have a pressure-sensitive adhesive thereon so that said sheet can be secured over the aperture.

In the event that is desirable to break through the sealing sheet it may be notched so that breaking can be readily initiated.

20 The implement may be any desired implement, but in a preferred form of the invention, the implement comprises at least one eating utensil. The utensil may comprise a spoon, a knife and/or fork. Also, a pair of chopsticks may be included in the lid. For convenience, however, the following discussion will be conducted with respect to spoons only; it being understood that suitable modifications are to
25 be made to suit other implements.

When the implement is a spoon or fork it preferably comprises a handle portion and a food support portion.

The food support portion may be flat but preferably is bowl shaped, although it is to be appreciated that having regard to the exigencies of moulding, packing,
30 packaging and use the amount of dishing may well be limited.

The handle portion may include a number of ribs which provide strength

thereto.

The implement may be in part defined by a perimetric rib which will increase strength.

5 The lid preferably has an outer peripheral rim for engaging with an upper peripheral rim of the container.

According to a further aspect of the invention there is provided, in combination, a container comprising a tub or bowl portion having an upper peripheral rim and a lid including an implement in accordance with any one of the preceding aspects of the invention.

10 The container preferably includes within its tub or bowl portion a material which can be dispensed by the implement.

A membrane may be provided extending over the opening in the tub or bowl portion of the container. The membrane may be heat sealed to the tub or bowl portion. Such a membrane is particularly desirable where the implement is defined
15 by a line of perforations or slots extending completely through the lid, or where the implement is formed separately from the cover portion and received in an aperture in the cover portion.

Instead of, or in addition to a membrane, another lid may be provided which may fit over or under the first mentioned lid.

20 Some preferred embodiments of lids in accordance with this invention will now be described, by way of example only, with reference to the accompanying drawings.

BRIEF DESCRIPTION OF THE VIEWS OF THE DRAWINGS

- Figure 1 is a plan view of a lid in accordance with the invention;
25 Figure 2 is a cross-sectional view on line II-II in Figure 1;
Figure 3 is an elongated cross-sectional view on line III-III in Figure 1;
Figure 4 is a cross-sectional view on line IV-IV in Figure 1;
Figure 5 is a cross-sectional view on line V-V in Figure 1;
Figure 6 is a cross-sectional view of part of a modified lid;
30 Figure 7 is a cross-sectional view of part of another modified lid;
Figure 8 is a plan view of another lid in accordance with the invention;

Figure 9 is an enlarged cross-sectional view on line IX-IX in Figure 8 and also showing the upper part of a container;

Figure 10 is a view similar to Figure 9 showing sealing sheets attached to the lid of Figure 8;

5 Figure 11 is a cross-sectional view of the lid of Figure 10 taken on line XI-XI in Figure 8;

Figure 12 is a plan view of a further lid in accordance with the invention;

Figure 13 is a cross-sectional view of line XIII-XIII in Figure 12; and

Figure 14 is a cross-sectional view on line XIV-XIV in Figure 12.

10 DETAILED DESCRIPTION WITH RESPECT TO THE DRAWINGS

In Figures 1 to 5 of the drawings is shown a lid 1 which comprises a cover portion 2 and a rim 3.

The rim 3 has a recess 4, a skirt 6 and a bead 7.

15 The lid 1 is intended to snap fit on to a container for a product and in this respect a typical container has a peripheral rim which enters into the recess 4 and which can be engaged by the bead 7 on the skirt 6 to restrict against removal of the lid 1.

The lid is moulded from a synthetic, thermoplastic material and moulded into the lid 1 is an implement in the form of a spoon 8.

20 The spoon 8 is defined by a frangible line of weakness in the form of a web 14 of reduced thickness in the cover portion 2 formed by an upper groove 9 in the upper surface 10 of the cover portion 2 and a lower groove 11 in the lower surface 13 of the cover portion 2.

25 A strengthening bead 12 is located on the lower surface 13 of the lid 1 and runs completely around the spoon to strengthen the cover portion 2 in way of the spoon.

The spoon 8 comprises a handle portion 16 and a bowl portion 17. The upper surface 18 of the spoon 8 is flat and flush with the flat upper surface 10 of the cover portion 2. A strengthening rib 21 is provided in the lower surface 19 of

the spoon 8 and runs around the perimeter of the spoon 8. Another strengthening rib 23 extends across the spoon to define the border between the handle portion 16 and the bowl portion 17.

Additional strengthening ribs 22 are provided in the underside of the handle
5 portion 16.

The lower surface of the bowl portion is of dished shape having a thinner central region at 24, and a thicker outer region at 25.

Whilst the dimensions of the lid are not critical, in a particularly preferred embodiment the lid has a general thickness of about 0.4 – 0.5mm in the general
10 region of the cover portion 2, and between the upper groove 9 and the lower groove 11 a thickness of about 0.05 – 0.10mm to define the frangible web 14. The actual thickness chosen should be such that the lid has structural integrity in normal packaging transport and sale but such little strength that the spoon 8 can be easily broken away from the cover portion 2 by simply pressing on the spoon 8.

15 It has also been found that the shape of a groove defining the breakaway line can improve breakability while retaining strength in unbroken condition.

Specifically it has been found that if one side of a groove is rounded and the other side of the groove is substantially flat when seen in cross-section then better breaking results.

20 The above is illustrated in Figure 6 and 7 where rounded shoulders 26 and 27 are provided at the upper peripheral edges of the spoon 8 and straight, oblique sides 28 and 29 are provided at the edges of the cover portion 2 adjacent the spoon which define the sides of a spoon shaped aperture when the spoon 8 is broken away.

25 In practice, it is preferred that one side of each groove 9, 11 adjacent the bottom of the groove is generally perpendicular to the upper surface 10 of the lid and another side of each groove adjacent the bottom of the groove is generally oblique to the upper surface 10, as shown in Figure 6 and 7.

Another lid 31 is shown in Figure 8–11 and is generally similar to that
30 shown in Figures 1–7 and like numerals denote like parts.

However, in this instance the spoon 8 has been defined by perforations or

slots 32 which extend over a major part of the outline of the spoon 8 and which extend completely through the cover portion 2 and by one or more frangible tabs and 33, 34 and 35 which connect the spoon 8 to the cover portion 2. The slots 32 and tabs 33, 34 and 35 together define a line of weakness such that when the
5 connecting tabs 33, 34 and 35 are broken, the spoon 8 is separated from the cover portion 2 to leave a spoon-shaped aperture in the cover portion 2. The width of the slots or perforations is preferably between 0.1mm and 1.0mm.

As shown in Figure 8, two tabs 33 are provided at the sides of the handle portion 16 of the spoon, a tab 34 is provided at the end of the handle portion 16
10 and a further tab 35 is provided at the end of the bowl portion 17. Thus, the perforations or slots 32 between the tabs 33, 34 and 35 are of elongate form.

It will, however, be appreciated that the slots and tabs may be of any desired length and any number of slots or perforations and tabs may be provided. For instance, a large number of short perforations and tabs may be provided to define
15 a line of weakness around the spoon that looks like a dashed or broken line.

The spoon 31 comprises a handle portion 16 and a bowl portion 17 and may incorporate strengthening ribs on its lower surface as in the embodiment of Figures 1 to 5.

It will, however, be appreciated that before the spoon 8 is broken away the
20 perforations or slots extending through the cover portion 2 represent an unsealed area of the lid. This may not present a problem if the container 40 to which the lid 1 is to be attached has a membrane 42 heat sealed to the upper peripheral rim 41 of the container 40 across the mouth of the container 40 as shown in Figure 9.

The container 40 of Figure 9 has a side wall 44 which together with a
25 container base (not shown) conveniently defines a tub or bowl shaped portion, and the upper part 45 of the side wall 44 terminates in the peripheral rim 41 defining the mouth of the container 40. The upper part 45 of the side wall 44 has an external recess 46 below the rim 41 which is adapted to receive the bead 7 on the skirt 6 of the lid 31.

30 If the lid of Figures 7 to 9 is to be used to seal a container which does not have a sealing membrane, or if the lid is required to reseal the container after the

spoon 8 has been separated from the cover portion 2, one or more sealing sheets may be provided attached to either one or both of the upper and lower surfaces of the spoon 8 and cover portion 2.

In Figures 10 and 11, there is shown the side part of a lid 31' provided with upper and lower sealing sheets 36 and 37 respectively. Each of the sealing sheets 36 and 37 conveniently has a pressure sensitive adhesive applied to one surface thereof to enable the sealing sheet 36, 37 to be removably attached to the lid over the spoon 8 and over the line of weakness defined by the perforations or slots 32 and the frangible tabs 33, 34, 35.

The sealing sheets 36 and 37 may be broken through or peeled back to access the spoon 8, but preferably at least one of the sealing sheets, desirably the upper sheet 36 has an adhesive thereon which is such that it enables the sealing sheet 36 to be peeled off the lid to allow the spoon 8 to be separated from the cover portion 2 whilst retaining sufficient adhesive to enable the sheet 36 to be re-attached to the lid 31 over the aperture formed by removal of the spoon.

A further lid 51 in accordance with the invention is shown in Figure 12 to 14 and is generally similar to the lid of Figures 10 and 11 and corresponding numerals denote corresponding parts.

However, in the lid 51 of Figures 12 to 14, the spoon 8 has been formed separately from the cover portion 2 of the lid 51 and is received in a spoon-shaped aperture 52 in the cover portion 2 leaving a gap 50 between the peripheral edge 54 of the spoon 8 and the side 53 of the aperture 52 in the cover portion.

In general, it will be found convenient if the lid 51 has a general thickness of about 0.4 - 0.5mm in the general region of the cover portion 2.

The gap 10 between spoon 8 and lid 1 is preferably about 0.1 - 1.0mm over the entire perimeter of the spoon.

Sealing sheets 56 and 57 are employed to seal the lid and to attach the spoon 8 to the cover portion 2.

The lid 51 is conveniently moulded by injecting a thermoplastic material into a single die having separate mould cavities for the cover portion 2 and the spoon 8. The spoon comprises a handle portion 16 and a bowl 17 and as in the

embodiment of Figures 1 to 5 the spoon 8 may have ribs on its under surface to provide strength.

The top surface of the spoon 8 is preferably flat and made flush with the cover portion 2.

5 The sealing sheets 56 and 57 may be placed in the die before it is closed and the thermoplastic material is injected between them.

The injection moulding die conveniently provides for two injection points; one for the lid and one for the spoon. One of the sealing sheets may have a hole which is pre-punched to allow plastic into the mould cavity for the spoon. The lid
10 cavity may be filled from the edge.

Sometimes one of the sealing sheets may be attached to one side of the lid after moulding to avoid punching a hole in one of the seal sheets.

It will be appreciated that the sealing sheets 56 and 57 should be strong enough to retain structural integrity during normal transport and handling but weak
15 enough that the spoon 8 can be easily removed by breaking or peeling a seal sheet.

Various modifications may be made to the above and include fixing one or both sealing sheets 56 and 57 with pressure-sensitive adhesive after the lid 1 and spoon 8 have been moulded. The thermoplastic material for the spoon is therefore not required to pass through a hole in a sealing sheet to enter the spoon cavity.

20 The claims and drawings form part of the disclosure of this specification as does the description, claims, illustrations, photographs and drawings of any associated provisional or parent specification or of any priority document all of which are imported hereinto as part of the record thereof.

Finally it is to be understood that various alterations, modifications and/or
25 additions may be incorporated into the various constructions and arrangements or parts without departing from the spirit and ambit of the invention.

CLAIMS:

1. A lid for a container, comprising a cover portion adapted to extend over a container, wherein the lid includes an implement for use with contents of the container, said implement being connected to the cover portion in such a manner as to be separable therefrom.
2. A lid according to claim 1 wherein the implement is located in a complementary shaped recess or aperture in the cover portion and is connected to the sides of the cover portion defining the recess or aperture by releasable or frangible means.
3. A lid for a container, comprising a cover portion adapted to extend over a container, an implement for use with contents of the container, said implement being formed integrally with the cover portion and being at least partly defined by a frangible web or line of weakness in the cover portion which may be broken to separate the implement from the cover portion.
4. A lid according to claim 3 wherein the line of weakness extends completely around the implement.
5. A lid according to claim 3 or claim 4 wherein the line of weakness comprises a frangible web defined at least partly by at least one groove in the cover portion.
6. A lid according to claim 5 wherein a groove is provided in the upper surface of the cover portion.
7. A lid according to claim 5 or claim 6 wherein a groove is provided in the lower surface of the cover portion.
8. A lid according to any one of claims 5 to 8 wherein one side of the groove is rounded and the other side of the groove is substantially flat.
9. A lid according to any one of claims 5 to 9 wherein one side of the groove adjacent its bottom is generally perpendicular to the plane of the cover portion and the other side of the groove adjacent its bottom is generally oblique.
10. A lid according to any one of claims 2, 3 or 4 wherein the implement is connected to the cover portion by frangible tabs, and a series of perforations or slots in the cover portion extend between the tabs.

11. A lid according to any one of claims 3 to 10 wherein the lid is moulded from a synthetic plastics material and has the implement moulded into the cover portion.

12. A lid according to claim 10 wherein the perforations or slots extend
5 completely through the lid and at least one removable sealing sheet is provided to cover the perforations or slots.

13. A lid according to claim 2 or any one of claims 3 to 11 wherein at least one removable sealing sheet is provided with the lid, the sealing sheet having an adhesive thereon for re-sealing an aperture in the cover portion formed by
10 removal of the implement.

14. A lid according to claim 1 or claim 2 wherein the implement is formed separately from the cover portion, and is attached to the cover portion by releasable or frangible attachment means.

15. A lid assembly according to claim 14 wherein the implement is attached to the cover portion by at least one releasable sealing sheet.

16. A lid for a container, comprising a cover portion adapted to extend over the container, an implement received in a complementary aperture in the cover portion, and at least one removable or frangible sealing sheet which extends over a gap between the implement and the cover portion and which is secured to the
20 implement and to the cover portion to seal the gap.

17. A lid according to claim 16 wherein the implement is formed separately from the cover portion.

18. A lid according to claim 16 or claim 17 wherein the gap provides a clearance between the peripheral edge of the implement and the sides of the
25 aperture of from 0.1mm to 1.0mm.

19. A lid according to any one of claims 11, 12 and 15 to 18 wherein a sealing sheet is applied to the upper surfaces of the cover portion and the implement.

20. A lid according to any one of claims 11, 12 and 15 to 18 wherein a
30 sealing sheet is applied to the lower surfaces of the cover portion and the implement.

21. A lid according to any one of claims 11, 12 and 15 to 18 wherein sealing sheets are applied to both upper and lower surfaces of the cover portion and the implement.

22. A lid according to any one of claims 11, 12 and 15 to 18 wherein the
5 or each sealing sheet has a pressure sensitive adhesive thereon.

23. A lid according to any one of the preceding claims wherein the implement comprises at least one eating utensil.

24. A lid according to claim 23 wherein the implement comprises a handle portion and a food support portion.

10 25. A lid according to claim 24, wherein the implement is a spoon and has a bowl-shaped food support portion.

26. A lid according to claim 24 or claim 25 wherein the handle portion includes a number of strengthening ribs.

15 27. A lid according to any one of the preceding claims wherein the implement has a perimetric rib.

28. A lid according to any one of the preceding claims wherein the cover portion has a substantially flat upper surface.

29. A lid according to claim 28 wherein a strengthening bead is provided on the lower surface of the cover portion.

20 30. A lid according to any one of the preceding claims wherein the lid has an outer peripheral rim for engaging with an upper peripheral rim of a container.

31. A lid according to claim 30 wherein the outer peripheral rim has a skirt and a bead thereon for engagement with a complementary recess or groove on the upper peripheral rim of the container.

25 32. A container comprising a tub or bowl portion and having an upper peripheral rim, and a lid adapted to engage with said upper peripheral rim, wherein the lid includes an implement and is in accordance with any one of the preceding claims.

30 33. A container and lid according to claim 32 wherein the container includes within its tub or bowl portion a material to be dispensed by the implement.

34. A container and lid according to claim 32 or claim 33 wherein the

container has a membrane provided over the tub and bowl portion.

35. A method of forming a lid in accordance with claim 16 comprising the steps of moulding the cover portion and the implement from a thermoplastic material in separate cavities in a single die, locating the implement in an aperture
5 in the cover portion, and applying at least one sealing sheet to the cover portion and implement so that the sealing sheet extends over the gap between the cover portion and the implement.

36. A method according to claim 35 wherein the sealing sheet is applied during moulding of the cover portion and implement.

10 37. A method according to claim 36 wherein a pair of sealing sheets are placed in a die on either side of sub-cavities for the cover portion and for the implement before the injection of thermoplastic material into the die.

38. A method according to claim 35 wherein said at least one sealing sheet has a pressure-sensitive adhesive thereon and is applied to the cover portion
15 and implement after moulding.

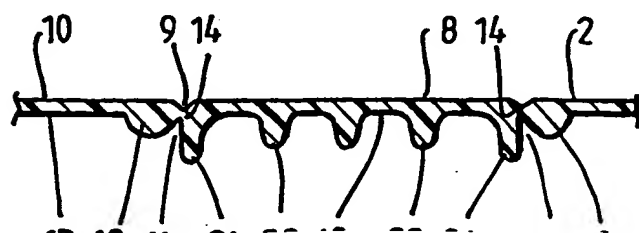
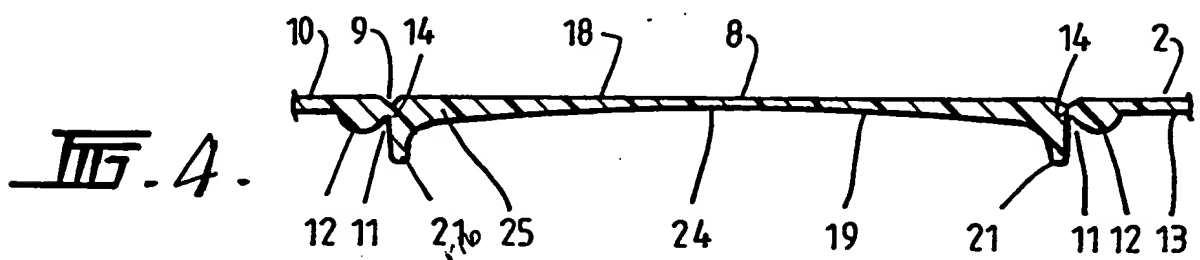
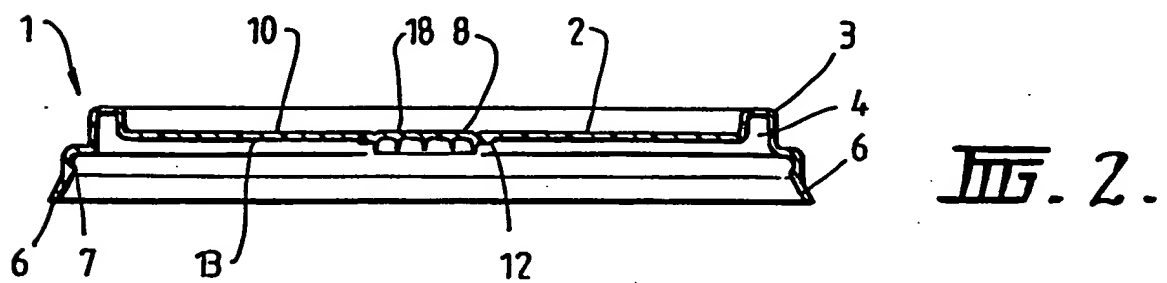
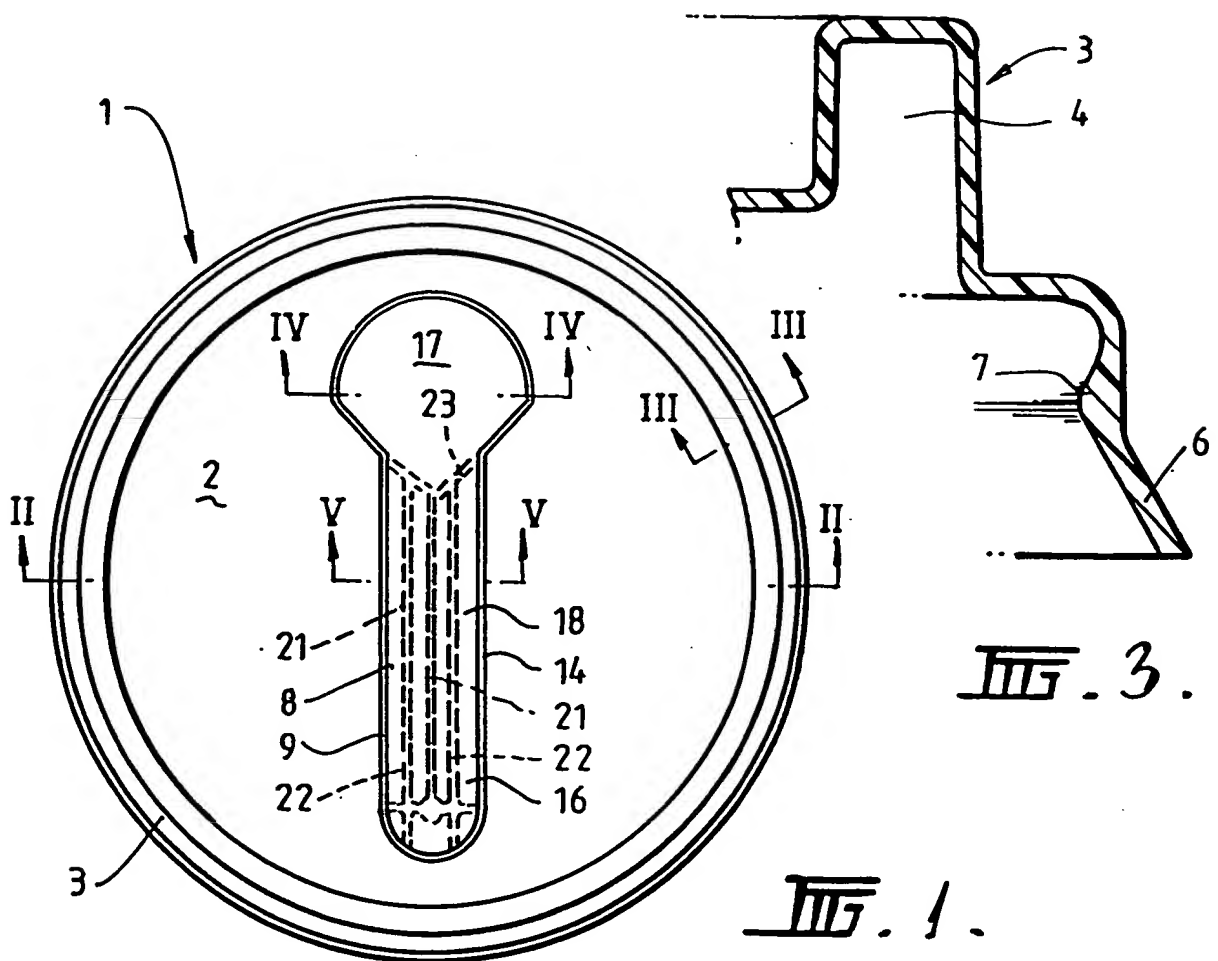
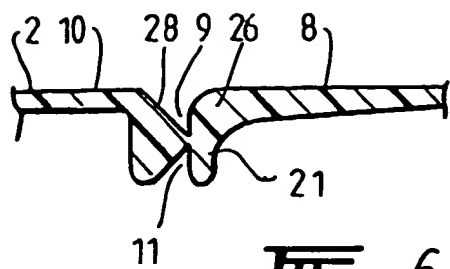
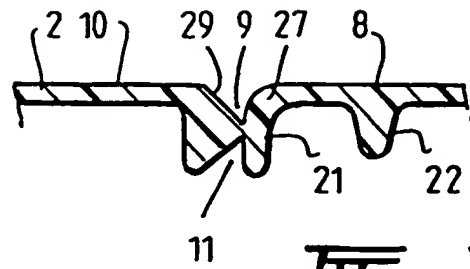


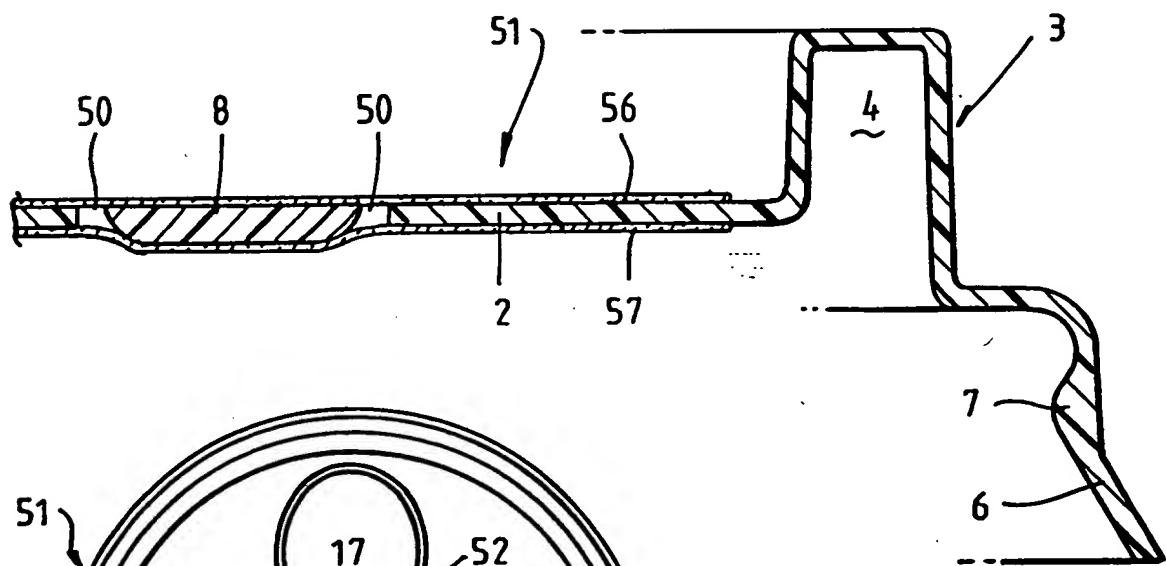
Fig. 5.



III. 6.



III. 7.



五. 14.

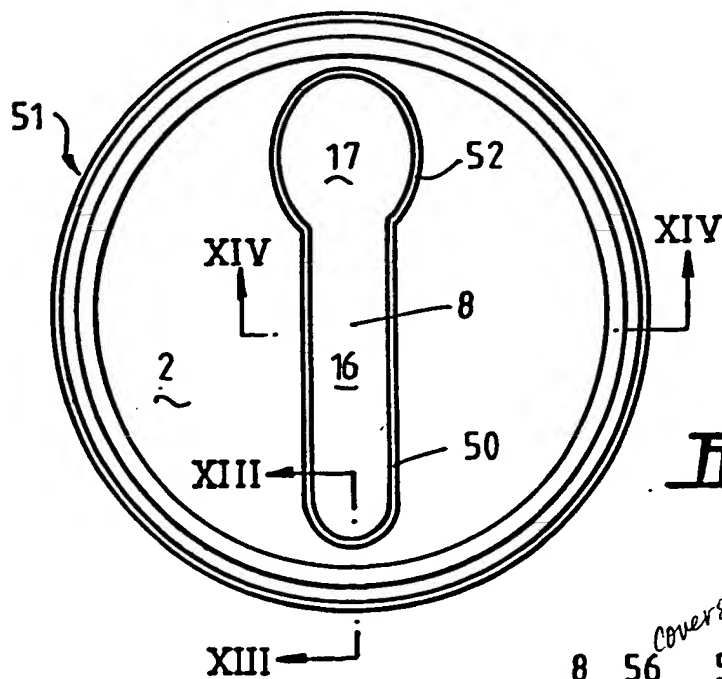
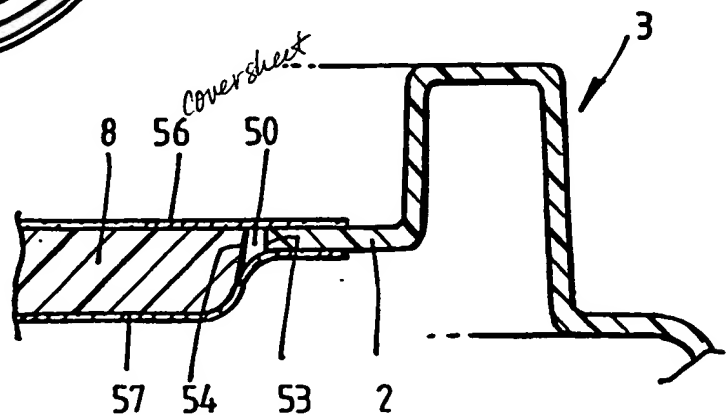


Fig. 12.



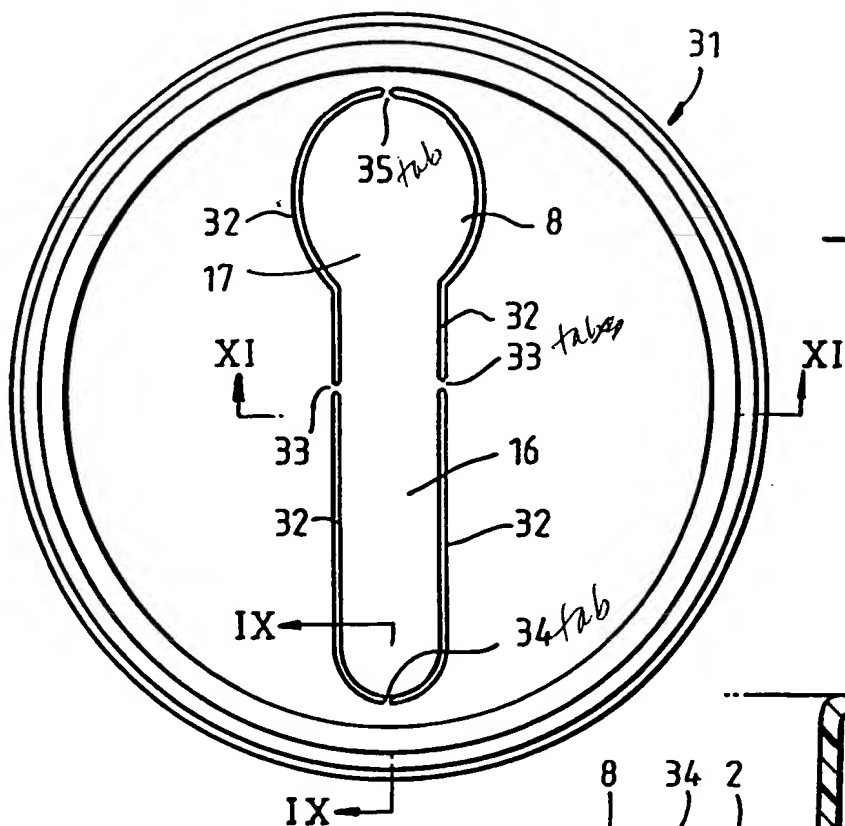


FIG. 8.

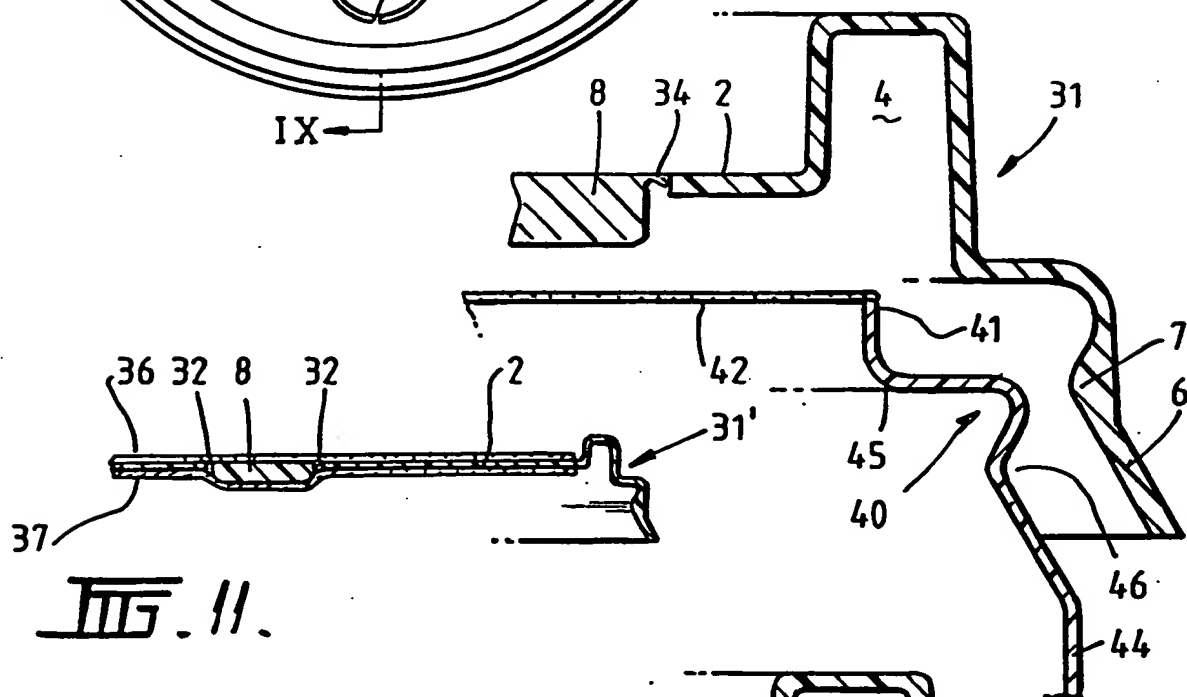


FIG. 9.

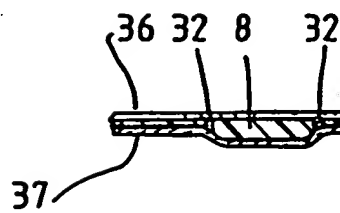


FIG. 10.

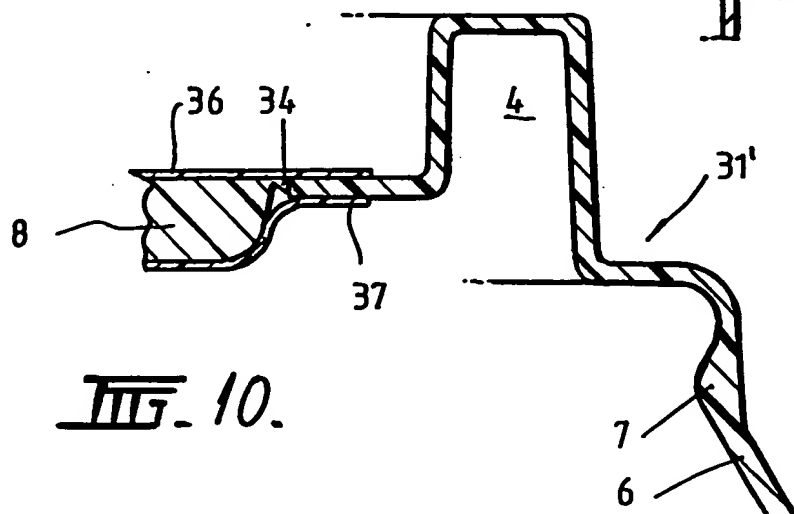


FIG. 11.

INTERNATIONAL SEARCH REPORT

PCT/AU 94/00543

A. CLASSIFICATION OF SUBJECT MATTERInt. Cl.⁶ B65D 51/24

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC: B65D 51/24, 51/32

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

AU: IPC as above

Electronic data base consulted during the international search (name of data base, and where practicable, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to Claim No.
X	AU,A,33357/50 (HAIG-FERGUSON) 25 May 1950 (25.05.50) Whole document	1-13,19-34
X	AU,B,42714/72 (466274) 29 November 1973 (29.11.73) Whole document	1,14-19,22-30,32,33
X	AU,B,50861/73 (472448) 11 July 1974 (11.07.74) Whole document	1,14,23-30,32,33
X	AU,A,30988/92 (AKERLUND & RAUSING) 16 September 1993 (16.09.93) Figs 1-9	1-11,19,23-34

☒ Further documents are listed
in the continuation of Box C.☒ See patent family annex.

* Special categories of cited documents :

"A" document defining the general state of the art which is not considered to be of particular relevance
 "E" earlier document but published on or after the international filing date
 "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
 "O" document referring to an oral disclosure, use, exhibition or other means
 "P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
 "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
 "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
 "&" document member of the same patent family

Date of the actual completion of the international search
 28 October 1994 (28.10.94)

Date of mailing of the international search report
 8 Nov 1994 (8.11.94)

Name and mailing address of the ISA/AU

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INTERNATIONAL SEARCH REPORT

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate of the relevant passages	Relevant to Claim No.
P,X,	AU,A,38760/93 (MIRA LANZA S.P.A.) 6 January 1994 (06.01.94) Whole document	1,14-19,22-33
X	US,A,3312366 (PORIS) 4 April 1967 (04.04.67) Figs 1-5	1,14,23-33
X	US,A,4216875 (STANISH) 12 August 1980 (12.08.80) Whole document	1,14,23-33
X	GB,A,2250271 (ROBINSON & SONS LTD) 3 June 1992 (03.06.92) Whole document	1,3,10,11,12,19,20, 21,23-33,35,36
X	EP,A,517963 (THOMASSEN & DRIJVER-VERBLIFA) 16 December 1992 (16.12.92) Figs 1 and 12	1,14,23-34
X	DE 3521289 (DALY Y CIA, S.A.) 19 December 1985 (19.12.85) Figs 1-3	1,2,3,10,11,12,19, 23-30,32,33
X	DE 3242257 (HERTEL) 17 May 1984 (17.05.84) Figs 1-7,12,13	1,14-19,22-30, 32,33,34
X	DE 3828330 (MELITTA-WERKE BENTZ & SOHN) 22 February 1990 (22.02.90) Figs 1-3	1,14,23-33
X	CH 632970 (ZIEGLER-HASLER) 15 November 1982 (15.11.82)	1-13,16,18,19, 22-30,32,35-38
X	Patent Abstracts of Japan, M1350, page 88, JP,A,4-239454 (DAINIPPON PRINTING CO. LTD.) 27 August 1992 (27.08.92) Abstract	1-12,14,16,17,19, 22-23
X	Patent Abstracts of Japan, M1350, page 88, JP,A,4-239455 (DAINIPPON PRINTING CO. LTD.) 27 August 1992 (27.08.92) Abstract	1-13,16,18,19,22-33, 35-38

INTERNATIONAL SEARCH REPORT

PCT/AU 94/00543

Box I Observations where certain claims were found unsearchable (Continuation of Item 1 of first sheet)

This international search report has not established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☐ Claim Nos.:
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:
3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

The international application does not comply with the requirements of unity of invention because it does not relate to one invention or to a group of inventions so linked as to form a single general inventive concept. In coming to this conclusion the International Searching Authority has found that there are four inventions:

1. Claim 1 directed to a lid characterised by the special technical feature of an implement connected to a cover portion of the lid to be separable therefrom.
2. Claim 3 directed to a lid characterised by the special technical feature of an implement being formed integrally with a cover portion of the lid by frangible tab(s) or line of weakness which may be broken to separate the implement.
3. Claim 16 directed to a lid characterised by the special technical feature of an implement received in a complementary aperture in a cover portion of the lid and at least one sealing sheet extending over a gap between the implement and cover portion.
4. Claim 35 directed to a method of forming a lid in accordance with claim 16 characterised by the special technical feature of molding the cover portion and implement in separate cavities in a single die.

Since the abovementioned claims do not share any of the technical features identified, a "technical relationship" between the inventions, as defined in PCT rule 13.2 does not exist.

The feature common to the abovementioned claims of a lid having a usable implement is known from the prior art.

Accordingly the international application does not relate to one invention or to a single inventive concept.

1. ☐ As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims
2. ☒ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically
claims Nos.:
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims;
it is covered by claims Nos.:

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☐ No protest accompanied the payment of additional search fees.

Information on patent family memb

PCT/AU 94/00543

Patent Document Cited in Search Report		Patent Family Member			
AU	42714/72				
AU	50861/73				
AU	30988/92	SE	9200677	WO	93/17920
AU	38760/93	CA SI	2096867 9300329	CZ	9301157
				EP	575694
US	4216875				
GB	2250271				
EP	517963				
DE	3521289	BR	8502475		
DE	3242257				
DE	3828330				
CH	632970				